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(54) Title of the invention	INFORMATION RECORDING MEDIA DEVICE	
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SPECIFICATION

1. TITLE OF THE INVENTION

INFORMATION RECORDING MEDIA DEVICE

2. SCOPE OF PATENT CLAIMS

(1) An information recording media device mounted on an information recording device or an information reproduction device in which a tape-shaped information recording medium is wound and housed in a casing and said information recording medium is used for information recording or reproduction, wherein a non-volatile information recording medium capable of rewriting abstract information related to information recorded in said information recording medium or information related to the reproduction operation of information recorded in said information recording medium is provided in said casing independently of said information recording medium.

(2) An information recording media device according to Claim 1 of the Scope of the Patent Claims, wherein the non-volatile information recording medium is made of a semiconductor memory device which is electrically connected to the information recording device or information reproduction device and writes information or receives reproduced information.

(3) An information recording media device according to Claim 2 of the Scope of the Patent Claims, wherein the electrical connection of the non-volatile information recording medium and the information recording device or information reproduction device is accomplished by mounting the casing housing the information recording medium onto said information recording device or information reproduction device.

3. DETAILED DESCRIPTION OF THE INVENTION

~~EMBODIMENTS~~ TECHNICAL FIELD OF THE INVENTION

The present invention relates to the improvement of an information recording media device mounted on an information recording device or an information reproduction device which houses a tape-shaped information recording medium used for information recording and playback in a casing.

TECHNICAL BACKGROUND OF THE INVENTION AND PROBLEMS

So-called cassette tapes, which are information recording media devices in which a tape-shaped recording medium such as a magnetic recording tape, for example, is wound in a reel and housed in a casing, have become widely popular in recent years. This type of information recording media device has many practical advantages such as its ease of handling, and it is widely used in optical recording and other recording systems in addition to magnetic recording.

However, when using this information recording

media device to record or reproduce information, there was the problem that, because the information recording medium was tape-shaped, a large amount of time was required when looking for a summary (abstract) of the information recorded in the medium or when searching for a target information recording position. Therefore, the content of the information and the count value expressing the information recording position were conventionally noted on paper using a device such as a tape counter, and this was stored together with the information recording media device. However, due to difficulties with the compatibility of the paper used to make notes and the information recording medium, there was the problem that the aforementioned information searches, for example, could not be efficiently performed.

PURPOSE OF THE INVENTION

The present invention was created with consideration of such circumstances, and its purpose is to provide an information recording media device capable recording and storing abstract information related to information recorded in the information recording medium or information related to the reproduction operation of this information by associating it with the information recording medium.

SUMMARY OF THE INVENTION

In the present invention, a non-volatile information recording medium such as an EEPROM semiconductor memory device, for example, which is capable of rewriting abstract information related to the information content recorded in a tape-shaped information recording medium or information related to the reproduction operation of this information, is provided in a casing in which this information recording medium is wound and housed. When the information recording media device is mounted on the information recording device or the information reproduction device, it can obtain abstract information of the information recorded in the information recording medium on the tape from the non-volatile information recording medium, or it can obtain information related to the reproduction operation of this information.

EFFECT OF THE INVENTION

Therefore, the present invention never causes the problems of conventional devices because it is always possible to obtain abstract information related to information recorded in the tape-shaped information recording medium or information related to the reproduction operation of this information from the non-volatile information recording medium in accordance with the information recording medium. In addition, the operation of the device is simple, which enables the effective elimination of problems related to information searches inherent to tape-shaped information recording media.

EMBODIMENT OF THE INVENTION

An embodiment of the present invention will be described hereafter with reference to the drawings.

Fig. 1 shows the exterior of the information recording media device of an embodiment. Here, 1 is a tape-shaped information recording medium such as a casing in which magnetic tape 2 is wound in a reel and housed, for example. This information recording media device is mounted on an information recording reproduction device referred to as a so-called tape recorder, and magnetic tape 2 is used by this device for the recording and reproduction of information as it is driven at a predetermined speed. A rewritable, non-volatile information recording medium such as EEPROM 3 made of a semiconductor, for example, which is used to store abstract information related to the information recorded in magnetic tape 2 and information related to the reproduction operation of this information, is provided in this casing 1. As shown in Fig. 2, when the information recording media device is mounted on an information recording reproduction device 4, this EEPROM 3 is electrically connected to information recording reproduction device 4 through the junction 3a, and this is activated when power is supplied in order to write information or reproduce written information. Information recording reproduction device 4 is equipped with a driving system 11 which drives magnetic tape 2 of the information recording media device mounted on this at a predetermined running speed, a device main body 13 which records and reproduces information on this driven magnetic tape 2 through a magnetic head 12, a power source part 14 which supplies driving power to EEPROM 3 through junction 3a, writing circuit 16 which writes information inputted through an input part 15 to EEPROM 3, and a readout circuit 18 which reads out the information recorded to EEPROM 3 through junction 3a and displays it with display part 17. In addition, of the information read out from EEPROM 3 through readout circuit 18, the information related to the information reproduction operation is provided to driving system 11 and the control system (not shown in the figure) of device main body 13.

As shown in Fig. 3, for example, the information recorded in EEPROM 3 comprises abstract information related to the information recorded on magnetic tape 2 – in other words, the information recording position (value shown by the tape counter) a on magnetic tape 2 and information b indicating the recording date, title name c

indicating the recorded information content, and control information (control program) d related to the information reproduction operation. These types of information can be appropriately changed based on the information recorded to magnetic tape 2.

As described above, with a device equipped with such an EEPROM 3, it is possible to obtain the content of information recorded on magnetic tape 2 from EEPROM 3 without running magnetic tape 2. Further, the content of the information recorded on magnetic tape 2 can be known by constantly maintaining this correspondence relationship. In addition, the use of information related to the reproduction operation of information read out from EEPROM 3 yields effects such as the ability to automate the control of this information reproduction operation.

Moreover, the present invention is not limited to the embodiment described above. For example, the tape-shaped recording medium is not limited to the magnetic tape described above, and it may alternatively be a microfilm as an optical information recording medium or a film for movies. Further, the non-volatile information recording medium that records abstract information may be, for example, a magnetic information recording medium that is fixed separately from the tape-shaped recording medium. In other words, the present invention can be variously transformed within a scope that does not deviate from the gist of the invention.

4. BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of the exterior of the device of an embodiment of the present invention. Fig. 2 shows the system configuration of the device of the embodiment. Fig. 3 shows the recording form of information such as abstract information.

1...casing, 2...magnetic tape (tape-shaped recording medium), 3...EEPROM (non-volatile information recording medium), 4...information recording reproduction device.

Applicant Agent Patent Attorney Takehiko Suzue

[see source for figures]

Fig. 1

Fig. 2

11 driving system
13 device main body
14 power source part
15 input part
16 writing circuit
17 display part
18 readout circuit

Fig. 3

c Trip to Tohoku
Nature in Shikoku
Animals of Kyushu

録情報内容を示すタイトルなどや、その情報再生動作に関する制御情報（制御プログラム）などからなる。尚、これらの情報は前記磁気テープ2に記録される前後に応じて適宜変更可能なものである。

かくしてこのようなEEPROM3を備えた装置によれば、磁気テープ2を走行させることなく該磁気テープ2に記録された情報内容を上記EEPROM3から得ることができる。しかも、常にその対応関係を維持して磁気テープ2に記録された情報内容を知ることが可能となる。更には上記EEPROM3から読出した情報再生動作に関する情報を用いて、その情報再生動作制御の自動化を図ることもできる等の効果が奏せられる。

尚、本発明は上記実施例に限定されるものではない。例えば、テープ状の記録媒体としては上述した磁気テープに限られるものではなく、光学情報記録媒体であるマイクロフィルムや映画用のフィルムであってもよい。また静止画情報等を記録する不揮発性情報記録媒体としては、前記テープ状記録媒体とは別に固定的に設けられた磁気情報記録媒体等であってもよい。要するに本発明はその要旨を逸脱しない範囲で種々変形して実施することができる。

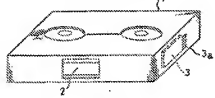
4．図面の簡単な説明

第1図は本発明の一実施例装置の外観斜視図、第2図は実施例装置のシステム構成を示す図、第3図は静止情報等の記録形態を示す図である。

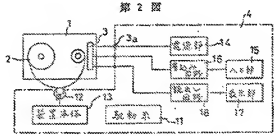
1…ケーシング、2…磁気テープ（テープ状記録媒体）、3…EEPROM（不揮発性情報記録媒体）、4…静止記録再生装置。

出願人代理人　弁理士　鈴江武彦

第1図



第2図



第3図